

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

5

1. (Currently amended) A surgical access device adapted for disposition relative to an incision in a patient, the access device facilitating insertion of [[a]] any surgical instrument having a diameter up to [[about]] 37 mm or more through the access device and maintenance of a sealing relationship with said surgical instrument, comprising:

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a valve structure including a gel material and an access channel, the access channel being adapted to receive the surgical instrument and the gel material being adapted to form a seal with the surgical instrument disposed in the access channel;

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a wound retractor adapted to dilate the incision;

the access channel including a protective sleeve extending into communication with the incision in the patient; and
the gel material including an elastomer.

2. (Original) The surgical access device of Claim 1, wherein the elastomer includes a silicone.

3. (Original) The surgical access device of Claim 1, wherein the elastomer includes a urethane.

4. (Original) The surgical access device of Claim 3, further comprising a foaming agent forming with the urethane a foam gel.

5. (Original) The surgical access device of Claim 1, wherein the gel material includes at least one of a urethane, polyvinylchloride, Isoprene, Kraton, an oil, and a foaming agent.

6. (Original) The surgical access device of Claim 1, wherein the elastomer includes a base and an oil forming with the base an elastomeric oil mixture.

7. (Original) The surgical access device of Claim 6, wherein the oil includes at least one of a vegetable oil, a petroleum oil, and a silicone oil.

8. (Currently amended) The surgical access device of Claim 1, wherein the valve structure further comprises a cap ring which may be inserted or molded into the gel material.

9. (Original) The surgical access device of Claim 8, wherein the protective sleeve is bonded or molded around an inner diameter of the cap ring.

10. (Original) The surgical access device of Claim 9, wherein the protective sleeve provides for wound protection during insertion and withdrawal of an instrument.

11. (Currently amended) The surgical access device of Claim 1, further comprising:

at least one support ring disposed circumferentially of the valve structure forming a hollow space[; and],

5 [[a]] wherein the wound retractor is operatively placed in the hollow space.

12. (Original) The surgical access device of Claim 11, wherein the wound retractor includes an inner ring, an outer ring, and a flexible sleeve connecting the inner ring and the outer ring.

13. (Original) The surgical access device of Claim 9, wherein the protective sleeve is a single tubular member.

14. (Original) The surgical access device of Claim 9, wherein the protective sleeve comprises a plurality of axially extending sleeve members having a plurality of axial slits.

15. (Original) The surgical access device of Claim 9, wherein the protective sleeve and the cap ring comprise of the same materials.

16. (Original) The surgical access device of Claim 9, wherein the protective sleeve and the cap ring comprise of different materials.

17. (Currently amended) A surgical access device facilitating a sealing relationship with an instrument extending through the device and into an incision in a body wall of a patient, the access device comprising:

a valve structure disposed relative to the incision in a sealing relationship with the body wall around the incision and extending into communication with the incision in the patient;

a wound retractor adapted to dilate the incision;

a protective sleeve extending into communication with the incision;

a [[valve]] single seal included in the valve structure and disposed relative to the incision in the body wall;

the [[valve]] single seal having a first state in the absence of an instrument extending through the valve structure, and a second state in the presence of an instrument extending through the valve structure;

the [[valve]] single seal in the first state forming a zero seal in the absence of the instrument extending through the valve structure; and

the ~~[[valve]]~~ single seal in the second state forming a seal with the instrument in the presence of the instrument extending through the access device.

18. (Currently amended) The surgical access device of Claim 17, ~~wherein the valve structure further comprises~~ comprising a cap ring inserted or molded ~~[[with]]~~ into the valve structure.

19. (Currently amended) The surgical access device of Claim 18, ~~wherein the valve structure further comprises a protective sleeve~~ is bonded or molded around an inner diameter of the cap ring.

20. (Original) The surgical access device of Claim 19, wherein the protective sleeve provides for wound protection during insertion and withdrawal of the instrument.

21. (Currently amended) The surgical access device of Claim 18, further comprising:

at least one support ring disposed circumferentially of the valve structure forming a hollow space~~[[; and]]~~,

5 ~~[[a]]~~ wherein the wound retractor is operatively placed in the hollow space.

22. (Original) The surgical access device of Claim 21, wherein the wound retractor includes an inner ring, an outer ring, and a flexible sleeve connecting the inner ring and the outer ring.

23. (Original) The surgical access device of Claim 19, wherein the protective sleeve is a single tubular member.

24. (Original) The surgical access device of Claim 19, wherein the protective sleeve comprises a plurality of axially extending sleeve members having a plurality of axial slits.

25. (Currently amended) A medical access device, including:
a valve structure having an elongate configuration;
at least one wall defining with the valve structure a working channel sized and configured to receive a surgical instrument; and
5 a gel disposed in the working channel and being adapted to form a seal with any instrument having a diameter up to [[about]] 37 mm or more disposed in the working channel;

the valve structure comprising,

a gel cap, and

10 an abdominal base, and

the gel cap comprising

a gel pad.

a circumferential cap ring, and

a protective sleeve bonded or molded around an inner diameter of

15 the cap ring.

26. (Canceled)

27. (Canceled)

28. (Currently amended) The medical access device of Claim ~~[[27]]~~ 25, wherein the protective sleeve is a single tubular member.

29. (Currently amended) The medical access device of Claim ~~[[27]]~~ 25, wherein the protective sleeve comprises a plurality of axially extending sleeve members having a plurality of axial slits.

30. (Currently amended) The medical access device of Claim ~~[[27]]~~ 25, wherein the cap ring has an annular void on an inner circumference to form a sealing relationship with the abdominal base.

31. (Original) The medical access device of Claim 30, wherein the abdominal base comprises a rounded end surface along its inner diameter to secure an inner ring of a wound retractor.

32. (Original) The medical access device of Claim 30, wherein the abdominal base comprises a plurality of toggles along its inner diameter to create a seal with the cap or to release the base from the cap.

33. (Original) The medical access device of Claim 30, wherein the abdominal base comprises a plurality of latches along its inner diameter to create a seal with the cap or to release the base from the cap.

34. (Original) The medical access device of Claim 30, wherein the abdominal base comprises a mating means along its inner diameter to create a seal with the cap or to release the base from the cap.

35. (Original) The medical access device of Claim 30, wherein the abdominal base comprises a raised wall along its inner diameter to fit a corresponding cap ring.

36. (New) A low-profile surgical valve structure adapted for disposition relative to an incision in a body wall and proximate an outer surface of the body wall, the incision being retracted by an incrementally adjustable wound retractor having an inner ring, an outer ring, and a flexible sleeve connecting the inner ring
5 to the outer ring, the inner ring expanding around an inner edge of the incision, the outer ring expanding around an outer edge of the incision, portions of the

flexible sleeve extending outside the incision being rolled around the outer sleeve to retract the incision, thereby forming a channel through the body wall and into a body cavity, the valve structure facilitating insertion of a surgical instrument through the valve structure and maintenance of a sealing relationship with the surgical instrument, comprising:

a gel pad adapted to be disposed over the incision and forming a seal with the wound retractor, the gel pad including a gel material comprising Kraton and oil, and a slit formed in the pad to provide an access opening through the pad, the slit being adapted to extend into communication with the incision, and

a circumferential cap ring molded to the gel pad, the cap ring being adapted to removably couple the valve structure to the outer ring of the wound retractor,

wherein the access channel forms a zero seal in the absence of an instrument extending therethrough and an instrument seal in the presence of an instrument extending therethrough.

37. (New) The valve structure of Claim 36, the cap ring forming a hollow space adapted to receive the wound retractor.

38. (New) The valve structure of Claim 36, wherein the gel pad includes a single access opening.

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39. (New) The valve structure of Claim 36, further comprising at least one additional access opening in the gel pad, the at least one additional access opening being formed by inserting an instrument through the gel pad away from the slit.